

Morphology of Solar Wind Fluctuations and Structure in the Vicinity of the Sun from Radio Propagation Measurements

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Radio propagation measurements represent a powerful means for remote probing electron density and solar wind speed in the acceleration region of the solar wind not yet explored by *in situ* measurements. Recent investigations based on radio propagation measurements have led to considerable progress in our knowledge of the general morphology of solar wind fluctuations and structure, especially in terms of their relationship to solar wind properties that have been observed directly by fields and particles measurements, and to coronal features observed in white-light measurements. The purpose of this paper is to present an overview of the latest results on quasi-stationary structure covering the large-scale variation of solar wind speed over the streamer belt and coronal hole regions, coronal streamers (source of slow solar wind) and their associated small scale electron density structure, plumes, density and fractional or relative density fluctuations, and the spectral characteristics of the electron density fluctuations. The radio propagation measurements not only reveal new information on the structure near the Sun, but also show that the structure appears to undergo substantial evolution on its way to 0.3 AU, the closest radial distance for which direct *in situ* spacecraft measurements are available.